

## SEQUENCE LISTING

<110> University of Medicine and Dentistry of New Jersey

<120> NOVEL PHARMACOPHORE FOR THE DISCOVERY AND TESTING OF NA, K-ATPASE INHIBITOR COMPOSITIONS AND METHODS FOR THEIR USE IN TREATING CARDIOVASCULAR DISEASES AND CONDITIONS

<130> 54704.8061.WO00

<150> 60/425,037

<151> 2002-11-07

<160> 2

<170> PatentIn version 3.2

<210> 1

<211> 1001

<212> PRT

<213> Homo sapiens

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Leu Trp Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile  
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Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu  
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Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu  
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Ile Leu Ile Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala  
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Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys  
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Val Tyr Arg Ala Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Arg Asp  
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Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro  
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Ala Asp Ile Arg Ile Leu Ser Ile Lys Ser Thr Thr Leu Arg Val Asp  
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Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Glu  
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Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu  
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Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Leu Gly Ile Val Ala  
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Thr Thr Gly Val Ser Thr Glu Ile Gly Lys Ile Arg Asp Gln Met Ala  
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Ala Thr Glu Gln Asp Lys Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe  
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Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Val Ala Val Trp  
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Leu Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp  
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Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val  
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Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala  
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Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu  
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Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Lys Met Phe Ile  
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Cys Ala Leu Cys Asn Asp Ser Ser Leu Asp Phe Asn Glu Thr Lys Gly  
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Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Thr Leu  
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Val Glu Lys Met Asn Val Phe Asn Thr Glu Val Arg Asn Leu Ser Lys  
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Val Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Arg Gln Leu Met Lys  
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Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val  
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Arg Val Gly Thr Thr Arg Val Pro Met Thr Gly Pro Val Lys Glu Lys  
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Ile Leu Ser Val Ile Lys Glu Trp Gly Thr Gly Arg Asp Thr Leu Arg  
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Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Lys Arg Glu Glu Met  
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Val Leu Asp Asp Ser Ser Arg Phe Met Glu Tyr Glu Thr Asp Leu Thr  
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Phe Val Gly Val Val Gly Met Leu Asp Pro Pro Arg Lys Glu Val Met  
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Gly Ser Ile Gln Leu Cys Arg Asp Ala Gly Ile Arg Val Ile Met Ile  
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Thr Gly Asp Asn Lys Gly Thr Ala Ile Ala Ile Cys Arg Arg Ile Gly  
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Ile Phe Gly Glu Asn Glu Glu Val Ala Asp Arg Ala Tyr Thr Gly Arg  
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Glu Phe Asp Asp Leu Pro Leu Ala Glu Gln Arg Glu Ala Cys Arg Arg  
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Ala Cys Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val  
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Glu Tyr Leu Gln Ser Tyr Asp Glu Ile Thr Ala Met Thr Gly Asp Gly  
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Gly Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala  
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Asp Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala  
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Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn  
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Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Leu Pro  
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 785 790 795 800

Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile  
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Met Asp Arg Pro Pro Arg Ser Pro Lys Glu Pro Leu Ile Ser Gly Trp  
 820 825 830

Leu Phe Phe Arg Tyr Met Ala Ile Gly Gly Tyr Val Gly Ala Ala Thr  
 835 840 845

Val Gly Ala Ala Ala Trp Trp Phe Met Tyr Ala Glu Asp Gly Pro Gly  
 850 855 860

Val Thr Tyr His<sup>-</sup>Gln Leu Thr His Phe Met Gln Cys Thr Glu Asp His  
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Pro His Phe Glu Gly Leu Asp Cys Glu Ile Phe Glu Ala Pro Glu Pro  
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Met Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala  
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Leu Asn Ser Leu Ser Glu Asn Gln Ser Leu Met Arg Met Pro Pro Trp  
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Val Asn Ile Trp Leu Leu Gly Ser Ile Cys Leu Ser Met Ser Leu His  
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 35 40 45

Gly Thr Asp Leu Asn Arg Gly Leu Thr Thr Ala Arg Ala Ala Glu Ile  
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Leu Ala Arg Asp Gly Pro Asn Ala Leu Thr Pro Pro Pro Thr Thr Pro  
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Glu Trp Val Lys Phe Cys Arg Gln Leu Phe Gly Gly Phe Ser Met Leu  
 85 90 95

Leu Trp Ile Gly Ala Val Leu Cys Phe Leu Ala Tyr Gly Ile Gln Ala  
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Ala Thr Glu Glu Glu Pro Gln Asn Asp Asn Leu Tyr Leu Gly Val Val  
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Leu Ser Ala Val Val Ile Ile Thr Gly Cys Phe Ser Tyr Tyr Gln Glu  
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Ala Lys Ser Ser Lys Ile Met Glu Ser Phe Lys Asn Met Val Pro Gln  
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Gln Ala Leu Val Ile Arg Asn Gly Glu Lys Met Ser Ile Asn Ala Glu  
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Glu Val Val Val Gly Asp Leu Val Glu Val Lys Gly Gly Asp Arg Ile  
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Pro Ala Asp Leu Arg Ile Ile Ser Ala Asn Gly Cys Lys Val Asp Asn  
 195 200 205

Ser Ser Leu Thr Gly Glu Ser Glu Pro Gln Thr Arg Ser Pro Asp Phe  
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Thr Asn Glu Asn Pro Leu Glu Thr Arg Asn Ile Ala Phe Phe Ser Thr  
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Asn Cys Val Glu Gly Thr Ala Arg Gly Ile Val Val Tyr Thr Gly Asp  
 245 250 255

Arg Thr Val Met Gly Arg Ile Ala Thr Leu Ala Ser Gly Leu Glu Gly  
 260 265 270

Gly Gln Thr Pro Ile Ala Ala Glu Ile Glu His Phe Ile His Ile Ile  
 275 280 285

Thr Gly Val Ala Val Phe Leu Gly Val Ser Phe Phe Ile Leu Ser Leu  
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Ile Leu Glu Tyr Thr Trp Leu Glu Ala Val Ile Phe Leu Ile Gly Ile  
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Ile Val Ala Asn Val Pro Glu Gly Leu Leu Ala Thr Val Thr Val Cys  
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Leu Thr Leu Thr Ala Lys Arg Met Ala Arg Lys Asn Cys Leu Val Lys  
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Asn Leu Glu Ala Val Glu Thr Leu Gly Ser Thr Ser Thr Ile Cys Ser  
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Asp Lys Thr Gly Thr Leu Thr Gln Asn Arg Met Thr Val Ala His Met  
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Trp Phe Asp Asn Gln Ile His Glu Ala Asp Thr Thr Glu Asn Gln Ser  
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Gly Val Ser Phe Asp Lys Thr Ser Ala Thr Trp Leu Ala Leu Ser Arg  
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Ile Ala Gly Leu Cys Asn Arg Ala Val Phe Gln Ala Asn Gln Asp Asn  
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Leu Pro Ile Leu Lys Arg Ala Val Ala Gly Asp Ala Ser Glu Ser Ala  
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Leu Leu Lys Cys Ile Glu Val Cys Cys Gly Ser Val Lys Glu Met Arg  
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Tyr Gln Leu Ser Ile His Lys Asn Ala Asn Ala Gly Glu Pro Arg His  
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Leu Leu Val Met Lys Gly Ala Pro Glu Arg Ile Leu Asp Arg Cys Ser  
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Cys Phe Val Gly Leu Ile Ser Met Ile Asp Pro Pro Arg Ala Ala Val  
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Pro Asp Ala Val Gly Lys Cys Arg Ser Ala Gly Ile Lys Val Ile Met  
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Val Thr Gly Asp His Pro Ile Thr Ala Lys Ala Ile Ala Lys Gly Val  
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Leu Asn Ile Pro Val Ser Gln Val Asn Pro Arg Asp Ala Arg Ala Cys  
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Val Val His Gly Ser Asp Leu Lys Asp Met Thr Pro Glu Gln Leu Asp  
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Asp Ile Leu Lys Tyr His Thr Glu Ile Val Phe Ala Arg Thr Ser Pro  
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Gln Gln Lys Leu Ile Ile Val Glu Gly Cys Gln Arg Gln Gly Ala Ile  
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Val Ala Val Thr Gly Asp Gly Val Asn Asp Ser Pro Ala Leu Lys Lys  
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Ala Asp Ile Gly Val Ala Met Gly Ile Ala Gly Ser Asp Val Ser Lys  
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Gln Ala Ala Asp Met Ile Leu Leu Asp Asp Asn Phe Ala Ser Ile Val  
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Ile Ala Tyr Thr Leu Thr Ser Asn Ile Pro Glu Ile Thr Pro Phe Leu  
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Ile Phe Ile Ile Ala Asn Ile Pro Leu Pro Leu Gly Thr Val Thr Ile  
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Leu Cys Ile Asp Leu Gly Thr Asp Met Val Pro Ala Ile Ser Leu Ala  
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Val Thr Trp Asp Asp Arg Trp Ile Asn Asp Val Glu Asp Ser Tyr Gly  
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